

What is claimed is:

1. A pipe insulation coupling for coupling adjacent ends of elongated pipe insulation tubing comprising:

5 an elongated body extending along a longitudinal axis between a first end and a second end, said elongated body including;

a cylindrical outer tube wall extending along said longitudinal axis between said first end and said second end,

10 a cylindrical inner tube wall spaced inwardly from and generally parallel to said outer tube wall and extending along said longitudinal axis between said first end and said second end, said inner tube wall and said outer tube wall defining an elongated channel therebetween adapted to receive adjacent ends of pipe insulation tubing,

15 a planar wall positioned transverse to said longitudinal axis for interconnecting said outer tube wall and said inner tube wall midway between said first and second ends and adapted to abut the adjacent ends of the pipe insulation tubing, and

20 at least one of said outer tube wall and said inner tube wall having a tapered inner surface extending from said planar wall to each of said first and second ends for gradually decreasing the space between said outer tube wall and said inner tube wall defined by said channel to frictionally retain the adjacent ends of the pipe insulation tubing within said channel along opposing sides of said planar wall.

2. A pipe insulation coupling as set forth in claim 1 wherein each of said outer tube wall and said inner tube wall includes a tapered inner surface extending from said planar wall to each of said first and second ends for gradually decreasing the space between said outer tube wall and said inner tube wall defined by said channel.

3. A pipe insulation coupling as set forth in claim 2 wherein said tapered inner surfaces of said outer tube wall and said inner tube wall taper outwardly from each of said first and second ends to said planar wall to decrease the space defined by said channel such that the space between said outer tube wall and said inner tube wall is less adjacent said planar wall than the space adjacent said first and second ends.

4. A pipe insulation coupling as set forth in claim 3 wherein said inner tube wall defines a center bore extending longitudinally between said first and second ends adapted to receive an elongated cylindrical pipe encapsulated by the pipe insulation tubing therethrough.

5 5. A pipe insulation coupling as set forth in claim 4 wherein said elongated body includes a first generally C-shaped clam shell portion and a second generally C-shaped clam shell portion.

10 6. A pipe insulation coupling as set forth in claim 5 wherein said elongated body includes a living hinge interconnecting said first and second clam shell portions longitudinally between said first and second ends for pivoting said clam shell portions from an open position adapted to receive the pipe and pipe insulation tubing and a closed position coupled about the pipe and adjacent ends of the pipe insulation tubing.

15 7. A pipe insulation coupling as set forth in claim 6 further including attachment tab extending outwardly from said elongated body adapted to secured said coupling to a support structure.

20 8. A pipe insulation coupling for coupling adjacent ends of elongated pipe insulation tubing surrounding a tubular pipe comprising:

an elongated body extending along a longitudinal axis between a first end and a second end, said elongated body includes a first generally C-shaped clam shell portion, a second generally C-shaped clam shell portion and a living hinge interconnecting said first and second clam shell portions longitudinally between said first and second ends for pivoting
25 said clam shell portions from an open position adapted to receive the pipe and pipe insulation tubing and a closed position coupled about the pipe and adjacent ends of the pipe insulation tubing, said first and second clam shell portions of said elongated body portion each including;

30 a cylindrical outer tube wall extending along said longitudinal axis between said first end and said second end,

a cylindrical inner tube wall spaced inwardly from and generally parallel to said outer tube wall and extending along said longitudinal axis between said first end and said second

end, said inner tube wall and said outer tube wall defining an elongated channel therebetween adapted to receive adjacent ends of pipe insulation tubing,

a planar wall positioned transverse to said longitudinal axis for interconnecting said outer tube wall and said inner tube wall midway between said first and second ends and

5 adapted to abut the adjacent ends of the pipe insulation tubing, and

at least one of said outer tube wall and said inner tube wall having a tapered inner surface extending from said planar wall to each of said first and second ends for gradually decreasing the space between said outer tube wall and said inner tube wall defined by said channel to frictionally retain the adjacent ends of the pipe insulation tubing within said

10 channel along opposing sides of said planar wall.

9. A pipe insulation coupling as set forth in claim 8 wherein each of said outer tube wall and said inner tube wall includes a tapered inner surface extending from said planar wall to each of said first and second ends for gradually decreasing the space between said outer

15 tube wall and said inner tube wall defined by said channel.

10. A pipe insulation coupling as set forth in claim 9 wherein said tapered inner surfaces of said outer tube wall and said inner tube wall taper outwardly from each of said first and second ends to said planar wall to decrease the space defined by said channel such

20 that the space between said outer tube wall and said inner tube wall is less adjacent said planar wall than the space adjacent said first and second ends.

11. A pipe insulation coupling as set forth in claim 10 wherein said inner tube wall defines a center bore extending longitudinally between said first and second ends adapted to

25 receive an elongated cylindrical pipe encapsulated by the pipe insulation tubing therethrough.

12. In combination, a pipe and pipe insulation coupling for coupling adjacent ends of elongated pipe insulation tubing comprising:

an elongated tubular pipe for transferring fluids therethrough;

30 at least a pair of elongated cellular pipe insulation tubing encased about said pipe and having adjacent facing ends;

a pipe insulation coupling for coupling said adjacent ends of said pipe insulation

tubing comprising an elongated body extending along a longitudinal axis between a first end and a second end, said elongated body including;

a cylindrical outer tube wall extending along said longitudinal axis between said first end and said second end,

5 a cylindrical inner tube wall spaced inwardly from and generally parallel to said outer tube wall and extending along said longitudinal axis between said first end and said second end, said inner tube wall and said outer tube wall defining an elongated channel therebetween for receiving said adjacent ends of said pipe insulation tubing,

a planar wall positioned transverse to said longitudinal axis for interconnecting said
10 outer tube wall and said inner tube wall midway between said first and second ends for abutting with said adjacent ends of said pipe insulation tubing, and

at least one of said outer tube wall and said inner tube wall having a tapered inner surface extending from said planar wall to each of said first and second ends for gradually decreasing the space between said outer tube wall and said inner tube wall defined by said
15 channel to frictionally retain said adjacent ends of said pipe insulation tubing within said channel along opposing sides of said planar wall.

13. A combination as set forth in claim 12 wherein each of said outer tube wall and said inner tube wall includes a tapered inner surface extending from said planar wall to each
20 of said first and second ends for gradually decreasing the space between said outer tube wall and said inner tube wall defined by said channel.

14. A combination as set forth in claim 13 wherein said tapered inner surfaces of said outer tube wall and said inner tube wall taper outwardly from each of said first and second
25 ends to said planar wall to decrease the space defined by said channel such that the space between said outer tube wall and said inner tube wall is less adjacent said planar wall than the space adjacent said first and second ends.

15. A combination as set forth in claim 14 wherein said inner tube wall defines a
30 center bore extending longitudinally between said first and second ends for receiving said elongated cylindrical pipe therethrough.

16. A pipe insulation coupling as set forth in claim 15 wherein said elongated body includes a first generally C-shaped clam shell portion and a second generally C-shaped clam shell portion.

5 17. A pipe insulation coupling as set forth in claim 16 wherein said elongated body includes a living hinge interconnecting said first and second clam shell portions longitudinally between said first and second ends for pivoting said clam shell portions from an open position to receive said pipe and said pipe insulation tubing and a closed position coupled about said pipe and said adjacent ends of said pipe insulation tubing.

10 18. A pipe insulation coupling as set forth in claim 17 further including attachment tab extending outwardly from said elongated body for securing said coupling, pipe and pipe insulation tubing to a support structure.

15 19. A pipe insulation coupling for coupling adjacent ends of elongated pipe insulation tubing surrounding a tubular pipe comprising:

an elongated body extending along a longitudinal axis between a first end and a second end, said elongated body including a first generally C-shaped clam shell portion and a second generally C-shaped clam shell portion; said first and second clam shell portions
20 defining a cylindrical outer tube wall extending along said longitudinal axis between said first and second ends, a cylindrical inner tube wall spaced inwardly from and generally parallel to said outer tube wall and extending along said longitudinal axis between said first end and said second end, and a planar wall positioned transverse to said longitudinal axis for interconnecting said outer tube wall and said inner tube wall midway between said first and
25 second ends and adapted to abut the adjacent ends of the pipe insulation tubing; and

at least one hinge interconnecting said first clam shell portion and said second clam shell portion longitudinally between said first and second ends for pivoting said clam shell portions from an open position adapted to receive the pipe and pipe insulation tubing and a closed position coupled about the pipe and adjacent ends of the pipe insulation tubing.

30 20. A pipe insulation coupling as set forth in claim 19 wherein said inner tube and said outer tube wall define an elongated channel therebetween adapted to receive the adjacent

ends of the pipe insulation tubing.

21. A pipe insulation coupling as set forth in claim 20 wherein said hinge includes a first slot extending transverse to said longitudinal axis from said inner tube wall through said planar wall to said outer tube wall.

22. A pipe insulation coupling as set forth in claim 21 wherein said hinge further includes second slot formed in said planar wall adjacent and generally parallel to said outer tube wall and intersecting with said first slot to thereby isolate an elongated arcuate section of said outer tube wall providing a rolling hinge between said first and second clam shell portions.

23. A pipe insulation coupling as set forth in claim 22 further including a opening spaced radially from said hinge for separating said first and second clam shell portion and defining facing ends therebetween.

24. A pipe insulation coupling as set forth in claim 23 wherein said opening extends transversely through said inner tube wall, said outer tube wall and said planar wall.

25. A pipe insulation coupling as set forth in claim 24 further including a fractureable web portion extending across said opening for interconnecting said facing ends of said first and second clam portions.

26. A pipe insulation coupling as set forth in claim 25 wherein said fractureable web portion extends between and interconnects said facing ends of said outer tube wall between said first and second clam portions.

27. A pipe insulation coupling as set forth in claim 26 further including a plurality of radially spaced apart hinges for interconnecting portions of said first clam shell with portions of said second clam shell longitudinally between said first and second ends for pivoting said clam shell portions from an open position adapted to receive the pipe and pipe insulation tubing and a closed position coupled about the pipe and adjacent ends of the pipe insulation

tubing.

28. A pipe insulation coupling as set forth in claim 27 wherein said plurality of
hinges separate said coupling into a plurality of portions separating said outer tube wall, said
5 inner tube wall and said planar wall.